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ABSTRACT

This paper discusses strategies related to the challenge of program accountability for subject matter knowledge and competency among beginning teachers. It focuses on reaching common understandings of three key concepts (accountability, subject matter knowledge, and competence), presenting them from the perspective of the state of Florida. Florida has a System of School Improvement and Accountability that guides the work of practitioners in the K-12 system and in teacher preparation programs. The state uses the program approval process to hold institutions accountable. Florida has a mixed degree of success in defining knowledge, skills, and dispositions, which limits the state's ability to define both knowledge and competence. The content standards for teachers are harder to define than standards for children. Florida has defined the general pedagogical skills for content areas and for other professional/pedagogical skills. The state has also identified factual knowledge teachers should have. However, there are no pedagogical skills outlined for the content areas. Florida determines whether or not institutions are ensuring the competence of their graduates by requiring that they answer three critical questions via an Institutional Program Evaluation Plan. The paper concludes by making suggestions about how to meet the challenge of program accountability. (SM)

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Program Accountability for Beginning Teachers' Subject Matter Knowledge and Competency and How to Meet the Challenge

A State's Perspective on Program Accountability for Teacher Education Graduates' Competency

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The Challenge

In their recent study targeted at identifying consensus in teacher education reform documents, Valli and Rennert-Ariev (2000) identified the two areas of highest agreement among the reform groups studied. These were multicultural competence and strong disciplinary preparation. They further concluded that reform groups coalesced more strongly around performance assessment as a viable mechanism to strengthen disciplinary preparation than they did around extended degree programs.

The purpose of this session is to discuss strategies related to meeting the challenge of program accountability for subject matter knowledge and competency. Many efforts to accomplish this fail because those involved approach the task with different definitions and understandings. In order to solve problems, it is obviously important, albeit difficult, to be "on the same page" when we get started. Regrettably, there is no manual, no dictionary, no glossary out there that we all can read to get a clear and concise set of definitions of the terms we use.

Hence, this paper will focus on reaching common understandings of key concepts. I propose that we use a series of questions to explore our own beliefs, so that at both the institutional and state levels, we can get started in a productive way. The concepts or terms we will look at are: "accountability," "subject matter knowledge", and "competence." Consistent with my job today, I will discuss each of these terms from the perspective of the State of Florida.

"Accountability"

Based on Webster's definition, we could say that accountability is the act of being responsible or answerable. But there are lots of complex questions here, most of which can be summarized in just a few words -- "Who is responsible to whom for what?" Separating that complex question, we can look at the following issues:

- "Who is responsible?" Is it the institution's president, the college's dean, the faculty (education and arts and sciences?), the advisors?
- "To whom are faculty and administrators responsible?" -- Are they responsible to the Board of Regents or governing board, the State Department of Education, the public, each other, school-aged children?

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- "For what assessments and assurances are faculty and administrators responsible?" -- Is the scope of their responsibility limited to providing a set of courses and assigning grades, or does it extend to ensuring competence prior to graduation and/or to following graduates into the field after graduation?

- "To what standards and guidelines should faculty and administrators be held accountable?" Are they the ones devised by themselves, by their institution, by their state, by the local schools, or by national organizations?

In Florida, we have a *System of School Improvement and Accountability* that guides the work of practitioners in the K-12 system as well as the teacher preparation programs. Our standards are locally defined, although we support institutional freedom to innovate and institutional pursuit of national recognition by specialty organizations whose standards we have attempted to use in the development of our own Florida standards. For children we have our *Sunshine State Standards*, for teachers we have both the *Accomplished Practices* (similar to the INTASC principles) and the new *Subject Matter Content Standards*. Schools are graded and publicly degraded if they fail; teacher preparation programs are reviewed and approved or can be placed on probation and eventually lose approval if they fail to meet State standards.

Among the faculty, while no one would disagree that we are accountable to children, there is much room for discussion with regard to the other populations to whom we could/should be held accountable. For those who find it difficult to accept that we can/should be held accountable to other adults, this whole process is somewhat painful and distasteful. At both the state and unit levels, this is a very difficult fact with which we need to deal.

In Florida, in teacher education, the State uses the program approval process to hold institutions accountable. Florida is serious about this. Florida's first continued program approval standard requires that "100% of teacher candidates demonstrate each of the 12 Accomplished Practices." No wiggle-room. This high stakes requirement is causing institutions throughout the State to focus on how to operationalize the demonstration of competency for each of the Practices, one of which is, of course, knowledge of subject matter. In Florida, and nationally, we are, to put it bluntly, faced with the now inevitable reality of having to practice what we preach. It is no longer enough to say, "I taught it." The State of Florida has said to teacher preparation programs, "You must certify that your teacher candidates have learned what we require, and you must tell us how you know they learned it."

<u>"Subject Matter Knowledge"</u>

Among the questions here are:

- "What does knowledge include?"

- "How is knowledge in a content area connected to other disciplines?

- "How can knowledge be transmitted to children in ways that allow them to use knowledge in current and future real life applications?"

For this term, we can look at NCATE's Standard I.C, which defines content in teacher education as "the structure, skills, core concepts, ideas, values, facts, methods of inquiry, and uses of technology for the content they [teacher candidates] plan to teach". This standard requires that "candidates complete a sequence of courses and/or experiences to develop an understanding" of content through a program that has used guidelines and standards of specialty organizations in the content areas. Under Standard I.E., NCATE further requires that units ensure (a.k.a. "be held accountable") that "candidates can integrate general, content, and professional/pedagogical knowledge to create meaningful learning experiences for all students." It is clear from these definitions or standards that subject matter knowledge goes well beyond factual knowledge. In fact, Wise (1999) establishes the expectation quite clearly:

> Developing structures to understand the concepts of a discipline lies at the heart of pedagogical content knowledge. Communicating the content in such a way that the student grasps the concepts and can apply them, rather than simply memorizing facts or equations, has been one of the major "missing links" in teacher preparation. Other professions do not need to incorporate this step into their professional preparation programs, simply because these professionals communicate the information to other professionals in their daily practice. They do not have the need to translate their knowledge into different forms digestible for a room of elementary, middle, or high school students. Thus higher education has not, until now, focused on this "bridge" from sophisticated concept to translation of it into elementary school applications. But if we are truly to transform teacher preparation, this is one bridge that must be built. (pp. 158-159.)

In Florida, we have a mixed degree of success in defining knowledge, skills, and dispositions, and this limits our ability to define both knowledge and competence. For children, we have probably done a better job than we have for teachers. We have a combination of standards, some of which are skill-based while others are knowledge-based; yet, many of the skills-based standards do not provide for a high degree of sophistication -- analysis, synthesis, and evaluation in Bloom's taxonomy:

- The student uses listening strategies effectively (IA.C.1.2)
- The student uses estimation in problem solving and computation (MA.A.4.2)
- The student uses the scientific processes and habits of mind to solve problems. (SC.H.1.2)
- The student describes patterns of structure and function in living things. (SC.F.1.2)
- The student recognizes the vastness of the universe and the Earth's place in it. (SC.E.2.2)
- The student understands the characteristics of different economic systems and institutions. (SS.D.2.4)

Missing from the latter three are the kinds of expectations contained in specialty association standards such as NCSS. In the above example taken from economics, there are six sub-competencies at the secondary level, each of which begins with the verb "understands". In the NCSS standards, in contrast, learners are expected to explain, analyze, compare, assess, apply, distinguish, and devise.

More difficult, however, in Florida, are the content standards for teachers. We have adopted our Accomplished Practice #8, Knowledge of Subject Matter, the preprofessional benchmark for which states:

> The preprofessional teacher has a basic understanding of the subject matter and is beginning to understand that the subject is linked to other disciplines and can be applied to real world integrated settings. The teacher's repertoire of teaching skills include a variety of means to assist student acquisition of new knowledge and skills using that knowledge.

This Practice is further elaborated through a set of "sample key indicators":

- Communicate knowledge of subject matter in a manner that enables students to learn.
- Increases subject matter knowledge in order to integrate learning activities.
- Uses the materials and technologies of the subject field in developing learning activities for students.
- Acquires currency in her/his subject field.
- Has planned and conducted collaborative lessons with colleagues from other fields.
- Develops short and long range goals relating to knowledge of subject matter.

Thus, in Florida we have defined with some clarity the general pedagogical skills for the content areas in the Practice cited above (#8). We have also defined other professional/ pedagogical skills broadly needed (the remaining 11 of our 12 Accomplished Practices, which include such things as assessment, planning, communication, critical thinking, technology, etc.). We have also identified the factual knowledge (Subject Matter Content Standards) teachers should have to understand what children should understand -- in great detail. These Standards are largely factual, written in long lists of areas of teacher "understanding" that range from specific details to broad areas of knowledge. For example, Florida standards require that an elementary teacher understand:

- Notetaking (2.2.1)
- Outlining (2.2.3)

- Significant events in history (9.1.1)
- That the Sun supplies heat and light energy to Earth (16.2.1)
- That science will never be finished and much more remains to be understood. (16.9.4)

Quality and clarity issues aside, the missing link is the pedagogical skills unique to each discipline that help teachers "teach" what they know and understand. There are no pedagogical skills outlined for the content areas. There is nothing equivalent to the kinds of skills reflected in the NCSS standards that take us to the level described by Wise. Examples from the NCSS standards describe what teachers of social studies should be able to do:

- Guide learners as they systematically employ processes of critical historical inquiry to reconstruct and interpret the past, such as using a variety of sources and checking their credibility, validating and weighing evidence for claims, and searching for causality.
- Enable learners to apply ideas, theories, and modes of historical inquiry to analyze historical and contemporary developments, and to inform and evaluate actions concerning public policy issues.

In elementary education alone there are almost 400 sub-skills derived from 52 sub-competencies derived from 18 major standards in elementary education alone -- 14 pages-worth. This is the worst example, of course. Aside from the sheer volume of competencies, the competencies themselves pose a plethora of assessment problems. How long should the test be to sample all of this, and what will the items look like? Which significant event in history should the test-writers select? Will there be an item like -- True or false -- "Science is finished, and now we understand everything." This brings us to the last term: "Competence."

<u>"Competence"</u>

For competence, we must ask questions such as:

- "How do we know competence when we see it?"
- "How many times and under what circumstances should we evaluate competence?"
- "What is the relationship between assessment and learning?"
- "How can we reliably measure the acquisition and use of knowledge?"

Going back to Webster and NCATE, we can define competence as being qualified or capable, adequate for a specified purpose, and even legally qualified to perform an act.

NCATE's Standard II.D holds teacher preparation institutions accountable for ensuring that candidates are competent to begin their roles in schools and that this be assessed prior to program completion and recommendation for licensure. NCATE further requires that a specific set of criteria or outcomes be established, published, and assessed using multiple sources of data.

Many institutions nationally have determined that the best vehicle by which to make such assessments is the portfolio, but like most terms we use, this one, too, is subject to a wide variety of definitions and usages. All too often, in teacher education we settle for a definition that focusses on showcasing knowledge and skills by the end of a student's program of studies. Wise (1999), on the other hand, takes this a step further, calling for the use of portfolios to provide only some of the evidence, and he encourages NCATE Board of Examiners' teams to determine how portfolios are developed, and, more importantly, how they are used to improve teaching, noting that "Both candidates and faculty should be able to explain how portfolios have been used to improve performance." (P. 157) In this definition, much as in the Alverno approach, we think about assessment as learning in a never-ending cycle of feedback loops. However, we must never loose sight of the fact that the ultimate purpose here is to make decisions about graduation and the potential for licensure.

In Florida we determine whether or not institutions are ensuring the competence of their graduates by requiring that they answer the following questions:

- "How do you know your students have acquired sufficient skill in the Accomplished Practices to graduate with a recommendation for licensure?"
- "What sources of data do you require to produce evidence of competence?"
- "How do you put all the evidence together in a meaningful and reliable way to make those decisions?"

We do this by requiring each institution to develop an Institutional Program Evaluation Plan in which the sources of data are listed, and then we verify during a site visit that the sources of data are used appropriately and summatively in decision-making. At least we are getting to that point, although we are not there yet. In the area of subject matter competence, Florida institutions are using some combination of the following sources of data to ensure student competence in the subject areas:

- GPA
- National subject matter exams and/or Florida Teacher Certification Exams
- Proficiency exams and/or traditional tests in courses
- Research papers, projects, presentations, and reviews
- Reviews of instructional materials for integration of content areas or coverage of Sunshine State Standards.

- Lesson plans and/or thematic units demonstrating ability to communicate content effectively, particularly with regard to Sunshine State Standards, and making use of interdisciplinary teaching

- Portfolios including reflections related to subject matter instruction

- Exhibitions and performances (e.g., in the arts)

- Videotaped teaching demonstrating competency in subject matter delivery

- Evaluation of cooperating teacher and university supervisor during final internship

- Professional development plan including goal related to increased knowledge of subject matter.

- K-12 student work samples in the content area

How to Meet the Challenge

I would propose that we get started in meeting the challenge by answering all of the questions I have outlined in this paper. These questions are equally applicable to institutional and state agency representatives.

Next, I would propose that we first accept the fact that standards (and the writing of standards) has become a popular national pass-time. That is not likely to change. Our challenge, then, becomes to find the forest and define it -- not to become lost in the trees. If we can find and define the forest, we can situate the trees in their proper places. Perhaps the biggest challenge we face is to construct our own set of standards that we can reasonably use in teacher education to achieve the goals established at a national level while preparing teachers for the schools of our State. We cannot do it all, so we need to decide what we can do well -- and what we can measure that is worth measuring.

To accomplish this we need to capture the big ideas, preferably those identified at a national level and organize around them. We will need to make decisions about which parts of the puzzle are appropriate to, and important enough for, assessment and devise assessment systems that adequately address the standards and can be managed for decision making about graduation. Decisions such as these need to be made at both the state and institutional level.

In State program approval offices, next steps to meeting challenges could be:

- Try to bring consistency -- or at least understanding -- to the terms.

- Try to make sense out of the plethora of standards, eliminating redundancy, and helping institutions focus on the forest, not the trees, using national and then state standards as an

organizing structure, while allowing for the uniqueness of each institution.

- Provide professional development activities for institutions, helping them to understand not only the program approval process, but what it is really all about. Hopefully that translates in the states as performance assessment, what it is, how to do it, and how to use it for decision-making.

- Establish networking systems for sharing and mutual support among teacher preparation programs in the state, bringing in those outside the state system who have thought creatively and intelligently about the process.

Conclusion

The challenges are great. Knowledge and understanding are where we start -- just as we have done in Florida's standards. The biggest challenge of all, though, is to continue from there. After all, in Bloom's taxonomy, knowledge and comprehension are at the bottom.

References

Education Standards Commission (1996). *Florida Educator Accomplished Practices*, Tallahassee, FL.: Florida Department of Education.

Education Standards Commission (1998). *Subject Matter Content Standards*, Tallahassee, FL.: Florida Department of Education.

Education Standards Commission (1996). *Sunshine State Standards*. Tallahassee, FL.: Florida Department of Education.

Florida Commission on Education Reform and Accountability (1995). *Florida's System of School Improvement and Accountability*, Tallahassee, FL.: Florida Department of Education.

National Council of Teacher Education (1997). *Standards , Procedures and Policies for the Accreditation of Professional Education Units*, Washington, D.C.

National Council for Social Studies Teachers (2000). *NCSS Standards for Social Studies Teachers, Procedures and Policies for the Accreditation of Professional Education Units*, www.NCSS.org.

Valli, L. And Rennert-Ariev (2000). Identifying consensus in teacher education reform documents: A proposed framework and action implications. *Journal of Teacher Education*, 51, pp. 5-17.

Wise, A. E. (1999). Moving toward performance-based accreditation systems for the teaching profession. In Roth, R. R. (Ed.), (pp. 151-165), Philadelphia, PA: Falmer Press.

Program Accountability for Subject Matter Competence: The Challenge

- Getting on the same page with definitions:
  - *Accountability*
  - *Subject Matter Knowledge*
  - *Competency*

Accountability -- The Questions

- Who is really responsible?
- *To whom are faculty and administrators responsible?*
- For what assessments & assurances are faculty & administrators responsible?
- *To what standards & guidelines should faculty & administrators be held accountable?*

Florida's *System of School Improvement and Accountability*

- The Accomplished Practices (for teachers)
- *The Sunshine State Standards (for P-12 students)*
- The Subject Matter Content Standards (for teachers
- *The Continued Program Approval Standards (for teacher prep. units)*

Florida's Continued Program Approval Standard #1

- ***All students who complete the program will demonstrate the 12 Accomplished Practices at the Preprofessional Benchmark as described in the institutional evaluation plan.***

Subject Matter Knowledge -- The Questions

- What does knowledge include?
- *How is knowledge in a content area connected to other disciplines?*
- How can knowledge be transmitted to children in ways that allow them to use knowledge in current and future real life applications?

NCATE's Definition of Content

- Standard I.C --
  - "the structure, skills, core concepts, ideas, values, facts, methods of inquiry, and uses of technology for the content they [teacher candidates] plan to teach"
  - "... a sequence of courses and/or experiences to develop an understanding" of content"

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The "Missing Link" -- A. Wise

- Developing structures to understand the concepts of a discipline lies at the heart of pedagogical content knowledge. Communicating the content in such a way that the student grasps the concepts and can apply them, rather than simply memorizing facts or equations, has been one of the major "missing links" in teacher preparation. Other professions do not need to incorporate this step into their professional preparation programs, simply because these professionals communicate the information to other professionals in their daily practice. They do not have the need to translate their knowledge into different forms digestible for a room of elementary, middle, or high school students. Thus higher education has not, until now, focused on this "bridge" from sophisticated concept to translation of it into elementary school applications. But if we are truly to transform teacher preparation, this is one bridge that must be built.

Content for Florida P-12 Students

- The student *uses* listening strategies effectively.
- The student *uses* estimation in problem solving and computation.
- The student *uses* the scientific processes and habits of mind to solve problems.
- The student *describes* patterns of structure and function in living things.
- The student *recognizes* the vastness of the universe and the Earth's place in it.
- The student *understands* the characteristics of different economic systems & institutions.

Accomplished Practice #8: Knowledge of Subject Matter

- The preprofessional teacher has a basic understanding of the subject matter *and is beginning to understand that the subject is linked to other disciplines and can be applied to real world integrated settings. The teacher's repertoire of teaching skills includes a variety of means to assist student acquisition of new knowledge and skills using that knowledge.*

Sample Indicators for AP #8

- Communicate knowledge of subject matter in a manner that enables students to learn.
- *Increases subject matter knowledge in order to integrate learning activities.*
- Uses the materials and technologies of the subject field in developing learning activities for students.
- *Acquires currency in her/his subject field.*
- Has planned and conducted collaborative lessons with colleagues from other fields.
- *Develops short and long range goals relating to knowledge of subject matter.*

Florida Teacher Content Standards

- The elementary teacher ***understands***:
  - Notetaking
  - Outlining
  - Significant events in history
  - That the Sun supplies heat and light energy to Earth
  - That science will never be finished and much more remains to be understood.

NCSS Teacher Standards

- Social studies teachers ***should be able to***:
  - *Guide* learners as they systematically *employ* processes of critical historical inquiry to *reconstruct and interpret* the past, such as *using* a variety of sources and *checking* their credibility, *validating and weighing* evidence for claims, and *searching* for causality.
  - *Enable* learners to *apply* ideas, theories, and modes of historical inquiry to *analyze* historical and contemporary developments, and to *inform and evaluate* actions concerning public policy issues.

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Measurement Issues in Florida

- 400 competencies -- *How many test items?*
- Re: Competency #9.1.1: *Which significant event in history??*
- Re: Competency #16.9.4: *True or false -- Science is finished, and now we understand everything.*

Competence -- The Questions

- How do we know competence when we see it?
- *How many times and under what circumstances should we evaluate competence?*
- What is the relationship between assessment and learning?
- *How can we reliably measure the acquisition and use of knowledge?*

NCATE Standard II.D

- The unit ensures that a candidate's competency to begin his or her professional role in schools is assessed prior to completion of the program and/or recommendation for licensure.
  - *Exit criteria/outcomes*
  - *Multiple measures*

Florida's Institutional Program Evaluation Plans

- How do you know your students have acquired sufficient skill in the Accomplished Practices to graduate with a recommendation for licensure?
- *What sources of data do you require to produce evidence of competence?*
- How do you put all the evidence together in a meaningful and reliable way to make those decisions?

Examples of Sources of Data for Content Knowledge in Florida

- GPA
- *National subject matter exams and/or Florida Teacher Certification Exams*
- Proficiency exams and/or traditional tests in courses
- *Research papers, projects, presentations,reviews*
- Reviews of instructional materials for integration of content areas or Sunshine State Standards
- *Lesson plans and/or thematic units demonstrating ability to communicate content effectively, particularly with regard to Sunshine State Standards and making use of interdisciplinary teaching*

More Florida Examples

- Portfolios including reflections related to subject matter instruction
- *Exhibitions and performances (e.g., in the arts)*
- Videotaped teaching demonstrating competency in subject matter delivery
- *Evaluation of cooperating teacher and university supervisor during final internship*
- Professional development plan including goal related to increased knowledge of subject matter
- *PK-12 student work samples in the content area*

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Meeting the Challenge

- Start with answers to the questions.
- Then synthesize the standards.
- Then decide what you can and should measure.

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In State Agencies

- Bring consistency/understanding -- to the terms.
- *Make sense out of the plethora of standards.*
- Provide professional development activities, including performance assessment strategies.
- *Establish networking systems.*

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Go Beyond Knowledge and Comprehension.

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